What is claimed is:

1. An electrical power source system, comprising:

an electrical power storage subsystem; and

a control system coupled with the electrical power storage subsystem, and configured to provide a plurality of modes of operation including at least a static compensator (STATCOM) operational mode and an uninterruptible power supply (UPS) operational mode, and to control transitions between each of the plurality of modes, including operation in more than one mode at the same time.

2. The electrical power source system as claimed in claim 1, wherein the static compensator (STATCOM) operational mode is implemented without a conventional static compensator (STATCOM), and the uninterruptible power supply (UPS) operational mode is implemented without a conventional uninterruptible power supply (UPS).

3. The electrical power source system as claimed in claim 1, further comprising: an electrical power generator, wherein the control system is further coupled to the electrical power generator, and is further configured to provide a generator mode.

4. The electrical power source system as claimed in claim 3, wherein the control system is further coupled to the electrical power generator and is further configured to provide a multiplicity of generator connection modes, including at least a dc-connected generator mode and an ac-connected generator mode.

5. The electrical power source system as claimed in claim 1, wherein:

the control system is an integrated closed loop control system.

6. The electrical power source system as claimed in claim 1, wherein:

the control system comprises:

a current control system coupled with the electrical power storage subsystem and the electrical power generator; and

a voltage control system coupled with at least the electrical power storage subsystem.

7. The electrical power source system as claimed in claim 6, wherein:

the current control system includes a voltage source converter (VSC) current controller coupled with a pulse pattern generation unit; and

the pulse pattern generation unit couples with the energy storage system and is configured to supply control signals to the energy storage system.

8. The electrical power source system as claimed in claim 7, wherein:

the voltage control system includes the VSC voltage controller coupled with the pulse pattern generation unit; and

the pulse pattern generation unit couples with the energy storage system and is configured to supply control signals to the energy storage system.

9. The electrical power source system as claimed in claim 8, wherein:

the energy storage system includes a VSC coupled with an energy storage unit, wherein the energy storage unit is configured to store electrical energy, and the VSC is configured to draw energy from the energy storage unit and supply electrical energy to the energy storage unit.

10. The electrical power source system as claimed in claim 6, wherein:

the control system further includes a detection and mode selection unit coupled with the current control and the voltage control, and configured to determine the mode of operation of the apparatus.

11. The electrical power source system as claimed in claim 10, further comprising:

a solid state breaker (SSB) coupled with the detection and mode selection unit and with a grid and configured to decouple a load from the grid; and

the detection and mode selection unit is configured to signal the SSB to open and close.

12. The power system as claimed in claim 1, wherein the storage system comprises a battery.

13. The power system as claimed in claim 1, wherein the storage system comprises a flywheel.

14. The power system as claimed in claim 1, wherein the storage system comprises an SMES.

15. The power system as claimed in claim 1, wherein the storage system comprises an electrochemical capacitor.

16. The power system as claimed in claim 1, wherein the storage system comprises a compressed air energy storage system (CAES).

17. The power system as claimed in claim 1, wherein the control system includes at least one storage control module specifically configured for controlling the operation of the electrical power storage subsystem.

18. The power system as claimed in claim 17, wherein the storage control module is interchangeable with a second storage control module that is specifically configured for controlling the operation of a second electrical power storage subsystem.

19. The power system as claimed in claim 17, wherein the storage control module is chosen from the group comprising: a software configuration, a hardware configuration, and a combination of a software and a hardware configuration.

20. The power system as claimed in claim 2, wherein the control system includes at least one electrical power generator control module specifically configured for controlling the operation of the electrical power generator.

21. The power system as claimed in claim 20, wherein the electrical power generator control module is interchangeable with a second electrical power generator control module that is specifically configured for controlling the operation of a second electrical power generator.

22. An apparatus for providing electrical power, comprising:

a static compensator (STATCOM);

an uninterruptible power supply (UPS); and

a multimode control system coupled with the STATCOM and the UPS, wherein the multimode control system is configured to control the operation of each of the STATCOM and the UPS to cooperate the STATCOM and the UPS to simultaneously provide reactive power (static compensation) and/or real electrical power in any combination before, during, and/or after a disturbance or outage on the electrical grid.

23. The apparatus as claimed in claim 22, further comprising: a generator, and wherein the multimode control system is further coupled with the generator, and wherein the control system is further configured to cooperate the generator with the STATCOM and the UPS to provide real and reactive electrical power.

24. The apparatus as claimed in claim 23, wherein:

the control system includes at least:

a current control system coupled with the STATCOM, the UPS, and the generator, and configured to provide control for the STATCOM, the UPS, and the generator; and

a voltage control system coupled with at least the UPS , and configured to provide control for the UPS.

25. The apparatus as claimed in claim 22, wherein:

the control system includes at least:

a current control system coupled with the STATCOM and the UPS, and configured to provide control for the STATCOM and the UPS; and

a voltage control system coupled with at least the UPS, and configured to provide control for the UPS.

26. The apparatus as claimed in claim 25, wherein:

the control system includes: a detection and mode selection unit coupled with the current control system and the voltage control system, and configured to signal the current control system and the voltage control system to activate and deactivate the current control system and the voltage control system.

27. The apparatus as claimed in claim 26, wherein the STATCOM includes at least a voltage source converter (VSC) coupled with an energy storage unit, wherein the VSC provides at least static compensation (reactive power injection/absorption).

28. The apparatus as claimed in claim 27, wherein the UPS includes at least an energy storage unit but does not include a power conditioner, and wherein the UPS supplies power through the STATCOM from the energy storage unit.

29. The electrical power source system as claimed in claim 27, wherein the energy storage unit is chosen from the group comprising: a battery, a flywheel, an SMES, an electrochemical capacitor, and combinations thereof.

30. An alternate power source system for coupling with at least one load and configurable to provide alternate electrical power to said at least one load, the alternate power source system comprising:

a multimode control system configured to cooperate a plurality of operational modes, the multimode control system comprising:

a current control system; and

a voltage control system.

31. The alternate power source system as claimed in claim 30, wherein the multimode control system is further configured to provide multiple modes of operation including at least a standby mode and an energy storage discharge mode.

32. The alternate power source system as claimed in claim 31, wherein the multimode control system is further configured to provide an energy storage charge mode, wherein the charge mode is capable of operating during at least one of the other multiple modes of operation.

33. The alternate power source system as claimed in claim 31, wherein the multimode control system is further configured to provide an alternate power source mode.

34. The alternate power source system as claimed in claim 33, wherein:

the current control system is configured to control at least an alternate power source mode of operation and a standby mode of operation; and

the voltage control system is configured to control at least an energy storage discharge mode of operation while the alternate power source mode is not operating.

35. The alternate power source system as claimed in claim 34, wherein the current control provides control for at least an energy storage discharge mode while the alternate power source mode is operating.

36. A method for supplying alternate power to a load, comprising:

supplying power through at least one of a plurality of modes of operation, including a static compensation (STATCOM) mode and an uninterruptible power supply (UPS) mode; and

controlling the plurality of modes from a control system to cooperate the plurality of modes and to transition between the plurality of modes of operation.

37. The method as claimed in claim 36, wherein the controlling further comprises operating simultaneously at least two of the plurality of modes of operation.

38. The method as claimed in claim 37, wherein the operating simultaneously includes operating the STATCOM mode and the gen set mode simultaneously.

39. The method as claimed in claim 36, wherein the supplying power further includes a power generation (gen set) mode.

40. The method as claimed in claim 39, wherein the controlling further comprises operating simultaneously at least two of the plurality of modes of operation.

41. The method as claimed in claim 40, wherein the operating simultaneously includes:

ramping the gen set mode up; and

simultaneously ramping the UPS mode down as the gen set mode is ramped up.

42. The method as claimed in claim 40, wherein the operating simultaneously includes operating the gen set mode and the UPS mode simultaneously.

43. A method for providing power to a load, comprising:

operating an apparatus for providing power to a load including:

operating in a standby mode; and

operating in an uninterruptible power supply (UPS) mode; and

controlling the standby mode and the UPS mode to cooperate in providing substantially uninterruptible power to a load.

44. The method as claimed in claim 43, wherein the operating the apparatus further comprises operating in a generator mode, and the controlling further includes controlling the generator mode to cooperate with the standby mode and the UPS mode in providing the substantially uninterruptible power to the load.

45. The method as claimed in claim 43, wherein:

the operating in the standby mode includes:

monitoring a grid that supplies power to the load; and

providing static compensation (reactive power injection/absorption).

46. The method as claimed in claim 44, wherein:

the operating in the standby mode includes monitoring a grid that supplies power to the load; and

the controlling includes: disconnecting the load from the grid if a fault is detected on the grid; and initiating the UPS to supply power to the load.

47. The method as claimed in claim 44, wherein:

the operating in the generator mode includes monitoring the load; and

the controlling includes: reconfiguring the connection of the generator to the load from ac to dc connection if a fault is detected on the load.

48. The method as claimed in claim 46, further including:

providing static compensation during the UPS mode.

49. The method as claimed in claim 46, wherein:

the controlling includes:

initiating the generator mode and ramping up power supplied through the generator mode; and

ramping down the power supplied through the UPS mode as the power supplied through the generator mode is ramping up.

50. The method as claimed in claim 49, wherein:

the controlling includes:

continuing to monitor the grid while operating in the generator mode;

synchronizing the power supplied through the generator mode if the fault on the grid is no longer detected;

connecting the grid to the load; and

halting the generator mode such that the power is no longer supplied to the load through the generator mode.

51. The method as claimed in claim 46, wherein:

the controlling includes:

continuing to monitor the grid while operating in the UPS mode;

synchronizing the power supplied through the UPS mode if the fault on the grid is no longer detected;

connecting the grid to the load; and

halting the UPS mode such that the power is no longer supplied to the load through the UPS mode.

52. The method as claimed in claim 44, further comprising providing static compensation while operating in the standby mode, the UPS mode, and the generator mode.

53. The method as claimed in claim 44, wherein the step of controlling includes charging an energy storage system while operating in the standby mode and the generator mode.

54. A computer program product for use in conjunction with a computer system having a processor and a memory coupled to the processor, the computer program product comprising a computer readable storage medium and a computer program mechanism embedded therein, the computer program mechanism, comprising: a program module that directs a power system to supply alternate power (voltage and/or current) to a load, the program module including instructions for:

supplying power through at least one of a plurality of modes of operation, including a static compensation (STATCOM) mode and an uninterruptible power supply (UPS) mode; and

controlling the plurality of modes from a control system to cooperate the plurality of modes and to transition between the plurality of modes of operation.

55. A computer program product for use in conjunction with a computer system having a processor and a memory coupled to the processor, the computer program product comprising a computer readable storage medium and a computer program mechanism embedded therein, the computer program mechanism, comprising: a program module that directs a power system to supply alternate power (voltage and/or current) to a load, the program module including instructions for:

operating an apparatus for providing power to a load including: operating in a standby mode; and operating in an uninterruptible power supply (UPS) mode; and

controlling the standby mode and the UPS mode to cooperate in providing substantially uninterruptible power to a load.